Structure and kinematics of edge-on galaxy discs – II. Observations of the neutral hydrogen

M. Kregel¹, P.C. van der Kruit^{1*} and W. J. G. de Blok²†

¹Kapteyn Astronomical Institute, University of Groningen, P.O.Box 800, 9700AV Groningen, the Netherlands

² Australia Telescope National Facility, PO Box 76, Epping NSW 1710, Australia

Accepted. Received.

ABSTRACT

We present Australia Telescope Compact Array (ATCA) and Westerbork Synthesis Radio Telescope (WSRT) HI observations of 15 edge-on spiral galaxies of intermediate to late morphological type. The global properties and the distribution and kinematics of the HI gas are analysed and discussed. We determine the rotation curves using the envelope-tracing method. For 10 spiral galaxies with a stellar disc truncation we find an average ratio of the HI radius to the truncation radius of the stellar disc of $1.1 \pm 0.2~(1\sigma)$.

This paper has been accepted by MNRAS and is available in pdf-format at the following URL:

http://www.astro.rug.nl/~vdkruit/jea3/homepage/paperII.pdf

Key words: galaxies: fundamental parameters – galaxies: kinematics and dynamics – galaxies: spiral – galaxies: structure